

K. Ganglia

RAW SEQUENCE LISTING

ERROR REPORT

BIOTECHNOLOGY
SYSTEMS
BRANCH

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following CRF diskette:

Application Serial Number:

09/270,437

Art Unit / Team No.:

1642

Date Processed by STIC:

7/30/999

THE ATTACHED PRINTOUT EXPLAINS THE ERRORS DETECTED.

PLEASE BE SURE TO FORWARD THIS INFORMATION TO THE APPLICANTS BY EITHER:

1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANTS ALONG WITH A NOTICE TO COMPLY or,

2) CALLING APPLICANTS AND FAXING THEM A COPY OF THE PRINTOUT WITH A NOTICE TO COMPLY

THIS WILL INSURE THAT THE NEXT SUBMISSION RECEIVED FROM THEM WILL BE ERROR FREE.

IF YOU HAVE ANY FURTHER QUESTIONS, PLEASE CALL:

MARK SPENCER 703-308-4212

09/27/70, 437

NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING
NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 CFR 1.821 - 1.825 for the following reason(s):

1. This application clearly fails to comply with the requirements of 37 CFR 1.821 - 1.825. Applicant's attention is directed to these regulations, published at 1114 OG 29, May 15, 1990 and at 55 FR 18230, May 1, 1990.

2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 CFR 1.821(c).

3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 CFR 1.821(e).

4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 CFR 1.822 and/or 1.823, as indicated on the attached copy of the marked-up "Raw Sequence Listing."

5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A substitute computer readable form must be submitted as required by 37 CFR 1.825(d).

6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 CFR 1.821(e).

7.

Other:

Applicant must provide:

An initial or substitute computer readable form (CRF) copy of the "Sequence Listing"

An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification

A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 CFR 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d)

For questions regarding compliance with these requirements, please contact:

For Rules Interpretation, call (703) 308-1123

For CRF submission help, call (703) 308-4212

For PatentIn software help, call (703) 557-0400

Please return a copy of this notice with your response.

Eyler

1642

Al-Nas

PAGE: 1

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/270,437

DATE: 07/30/1999
TIME: 14:45:07

Input Set: I270437.RAW

This Raw Listing contains the General Information Section and up to first 5 pages.

1 <110> Chen, Yao-Tseng
2 Gure, Ali
3 Tsang, Solam
4 Stockert, Elisabeth
5 Jager, Elke
6 Knuth, Alexander
7 Old, Lloyd J.
8 <120> Isolated Nucleic Acid Molecules Encoding Cancer Associated Antigen, The
9 Antigens Per Se, And Uses Thereof
10 <130> LUD 5538.1 PCT
11 <140> US/09/270,437
12 <141> 1999-03-16
13 <160> 3 8 struc in spf (see last page)
14 <210> 1
15 <211> 4265
16 <212> DNA
17 <213> Homo sapiens
18 <220>
19 <400> 1
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W--> 22 gagggacaca tacatcctaa aagcaccaca gcagaggagg cccaggcagt gccaggagtc 180
W--> 23 aaggttccca gaagacaaac ccccttagaa gacaggcgc ac tctgaggcc ctagagcacc 240
W--> 24 accttaagag aagaagagct gtaaggccgc ctttgcaga gccatcatgg gggacaaggaa 300
W--> 25 tatgcctact gctgggatgc cgagtcttcc ccaagatcc tctgagagtc ctcagagttg 360
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W--> 27 cgacaccctg tatacctctcc agatcctca gagtcgttcc gagggggagg actcctcgga 480
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W--> 30 gaaggactcc ctgtctctcc tagagatttc tcaagccct cctgagggtg aggtatc 660
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W--> 32 gagttccctt gagagtattc aaagtccctt tgagggttt ccccaagtctg ttctccagat 780

These bases are in bold print because they
were shown in upper-case letters in the submitted
file. The CLF program converted them to lower-case
letters. Per new Sequence Rule, ALL bases MUST
be shown in LOWER-CASE LETTERS. Please edit all nucleic
acid sequences. Please delete all hard page
break codes throughout Sequence Listing.

Input Set: I270437.RAW

| | |
|---------|---|
| W--> 33 | tcctgtgagc gcccctcct cctccacttt agttagtatt ttccagagtt cccctgagag 840 |
| W--> 34 | tactcaaagt ccttttggagg gttttccca gtctccactc cagattcctg tgagccgctc 900 |
| W--> 35 | cttctcctcc actttattga gtatttcca gagttccct gagagaagtc agagaacttc 960 |
| W--> 36 | tgagggtttt gcacagtctc ctctccagat tcctgtgagc tcctccctgt cctccacttt 1020 |
| W--> 37 | actgagtttt ttccagagtt cccctgagag aactcagagt acttttgagg gttttccca 1080 |
| W--> 38 | gtctccactc cagattcctg tgagccgctc ctctccctcc actttattga gtatttcca 1140 |
| W--> 39 | gagttccct gagagaactc agagtacttt tgagggtttt gcccagtctc ctctccagat 1200 |
| W--> 40 | tcctgtgagc ccctccttct cctccacttt agttagtatt ttccagagtt cccctgagag 1260 |
| W--> 41 | aactcagagt acttttgagg gttttccca gtctcccttc cagattcctg tgagcccttc 1320 |
| W--> 42 | cttctcctcc actttattga gtctttcca gagttccct gagagaactc agagtacttt 1380 |
| W--> 43 | tgagggtttt ccccagtctc ctctccagat tcctggaaagc ccctccttct cctccacttt 1440 |
| W--> 44 | actgagtttt ttccagagtt cccctgagag aactcagagt acttttgagg gttttccca 1500 |
| W--> 45 | gtctcccttc cagattccta tgacctctc ctctccctct actttattga gtatttaca 1560 |
| W--> 46 | gagttctcct gagagtgtc aaagtgtctt tgagggtttt ccccagtctc ctctccagat 1620 |
| W--> 47 | tcctgtgagc tcctcttct cctacacttt attgagtttt ttccagagtt cccctgagag 1680 |
| W--> 48 | aactcagagt acttttgagg gttttccca gtctcccttc cagattcctg tgagcccttc 1740 |
| W--> 49 | ctcctctcc tccactttat tgagtcttt ccagagttcc cctgagtgta ctcaaagtac 1800 |
| W--> 50 | tttgagggt ttccccagt ctctctcca gattcctcag agtctcctg aaggggagaa 1860 |
| W--> 51 | tacccattct ctctccaga ttgttccaag tcctcctgag tgggaggact ccctgtctcc 1920 |
| W--> 52 | tcactactt ctctcagagcc ctccctcaggg ggaggactcc ctatctcctc actacttcc 1980 |
| W--> 53 | tcagagccct ctctcagggg aggactccct gtctccctcac tacttcctc agagccctca 2040 |
| W--> 54 | ggggggaggac tcctgtctc ctctactt tcctcagagc ctccctcagg gggaggactc 2100 |
| W--> 55 | catgtctcct ctctactttc ctctcagatcc tcctcagggg gaggaattcc agtcttctct 2160 |
| W--> 56 | ccagagccct gtgagcatct gtcctccctc cactccatcc agtctccccc agatttccc 2220 |
| W--> 57 | tgagagttct cagactctc ctgaggggcc tgccctgtct cctctccata gtcctcagag 2280 |

Edit above base to lower-case

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RAW SEQUENCE LISTING
PATENT APPLICATION US/09/270,437DATE: 07/30/1999
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|---------|--|
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| W--> 60 | gtcttcctc catttcctc agagtctcc tgagtggag gactccctct ctccctctcca 2460 |
| W--> 61 | ctttcctcag tttcctcctc agggggagga ctccctcagtg tctctccaga gtccctgtgag 2520 |
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| W--> 63 | tcctcctgag gggcctgctc agtctctct ccagagacct gtcagctct tcttctccct 2640 |
| W--> 64 | cacttttagcg agtcttcctcc aaagttccca tgagagtctt cagatcctc ctgagggggcc 2700 |
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| W--> 68 | cccatccatgt gaagagtccca gcagccctgtt agatgaatat acaagttctt cagacacctt 2940 |
| W--> 69 | gcttagagagt gattccttga cagacagcga gtcccttggata gagagcgagc cttgttccac 3000 |
| W--> 70 | ttatacactg gatgaaaagg tggacgagtt ggcgcgggtt cttctctca aatatcaagt 3060 |
| W--> 71 | gaagcagcct atcacaaagg cagagatgtt gacgaatgtc atcagcaggt acacgggcta 3120 |
| W--> 72 | ctttcctgtg atcttcagga aagccctgtga gttcatagag atacttttg gcatttccct 3180 |
| W--> 73 | gagagaagtg gaccctgtatgt actcctatgt ctggatgtaaac acattagacc tcacctctga 3240 |
| W--> 74 | gggggtgtctg agtgtatgtt agggcatgtc ccagaaccgc ctccctgatcc ttattctgag 3300 |
| W--> 75 | tatcatcttc ataaaggcgtt cctatgcctc tgaggagggtc atctggatgt tgctgagtgg 3360 |
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| W--> 78 | tcgttacgaa ttccctgtggg gtccaaagac tcattcagaa gtcattaaaga ggaaagttagt 3540 |
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Edit

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RAW SEQUENCE LISTING
PATENT APPLICATION US/09/270,437DATE: 07/30/1999
TIME: 14:45:07

Input Set: I270437.RAW

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| W--> 83 | ctgggttggagg | ctggagagaa | cacagtgcata | tttgcatttc | tgttccatata | gggttagttat | 3840 | | | | | | | | | | | | | | |
| W--> 84 | ggggtttacc | tgttttactt | ttgggtat | ttcaaatgct | tttcctatta | ataacaggtt | 3900 | | | | | | | | | | | | | | |
| W--> 85 | taaatagctt | cagaatccta | gtttatgcac | atgagtcgca | catgtattgc | tgttttctg | 3960 | | | | | | | | | | | | | | |
| W--> 86 | gtttaagagt | aacagttga | tattttgtaa | aaacaaaaac | acacccaaac | acaccacatt | 4020 | | | | | | | | | | | | | | |
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| W--> 88 | attttcttga | aactgtgaag | gaactctgca | gttaaatagt | ggaataaaagt | aaaggattgt | 4140 | | | | | | | | | | | | | | |
| W--> 89 | taatgtttgc | atttcctcag | gtcctttagt | ctgttgtct | tgaaaactaa | agatacatac | 4200 | | | | | | | | | | | | | | |
| W--> 90 | ctggtttgct | tggcttacgt | aagaaagtgc | aagaaagtaa | actgtataaa | ataaaagtgt | 4260 | | | | | | | | | | | | | | |
| W--> 91 | cagt | | | | | | 4265 | | | | | | | | | | | | | | |
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| 93 <211> 1142 | | | | | | | | | | | | | | | | | | | | | |
| 94 <212> PRT | | | | | | | | | | | | | | | | | | | | | |
| 95 <213> Homo sapiens | | | | | | | | | | | | | | | | | | | | | |
| 96 <220> | | | | | | | | | | | | | | | | | | | | | |
| 97 <400> 2 | | | | | | | | | | | | | | | | | | | | | |
| 98 | Met | Gly | Asp | Lys | Asp | Met | Pro | Thr | Ala | Gly | Met | Pro | Ser | Leu | Leu | Gln | | | | | |
| 99 | | | | | | | | | | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | | | | | | | | | | |
| 101 | 5 | | | | | 10 | | | | | | | | | | | 15 | | | | |
| 102 | Ser | Ser | Ser | Glu | Ser | Pro | Gln | Ser | Cys | Pro | Glu | Gly | Glu | Asp | Ser | Gln | | | | | |
| 103 | | | | | | | | | | | | | | | | | | | | | |
| 104 | | | | | | 20 | | | | 25 | | | | | | | 30 | | | | |
| 105 | Ser | Pro | Leu | Gln | Ile | Pro | Gln | Ser | Ser | Pro | Glu | Ser | Asp | Asp | Asp | Thr | Leu | | | | |
| 106 | | | | | | | | | | | | | | | | | | | | | |
| 107 | | | | | | 35 | | | | 40 | | | | | | | 45 | | | | |
| 108 | Tyr | Pro | Leu | Gln | Ser | Pro | Gln | Ser | Arg | Ser | Glu | Gly | Glu | Asp | Ser | Ser | | | | | |
| 109 | | | | | | | | | | | | | | | | | | | | | |
| 110 | | | | | | 50 | | | 55 | | | 60 | | | | | | | | | |
| 111 | Asp | Pro | Leu | Gln | Arg | Pro | Pro | Glu | Gly | Lys | Asp | Ser | Gln | Ser | Pro | Leu | | | | | |
| 112 | | | | | | | | | | | | | | | | | 80 | | | | |
| 113 | | | | | | 65 | | | 70 | | | 75 | | | | | | | | | |
| 114 | Gln | Ile | Pro | Gln | Ser | Ser | Pro | Glu | Gly | Asp | Asp | Thr | Gln | Ser | Pro | Leu | | | | | |
| 115 | | | | | | | | | | | | | | | | | | | | | |
| 116 | | | | | | 85 | | | 90 | | | 95 | | | | | | | | | |
| 117 | Gln | Asn | Ser | Gln | Ser | Ser | Pro | Glu | Gly | Asp | Asp | Thr | Gln | Ser | Pro | Leu | | | | | |
| 118 | | | | | | | | | | | | | | | | | | | | | |
| 119 | | | | | | 100 | | | 105 | | | 110 | | | | | | | | | |
| 120 | Glu | Ile | Ser | Gln | Ser | Pro | Pro | Glu | Gly | Glu | Asp | Val | Gln | Ser | Pro | Leu | | | | | |
| 121 | | | | | | | | | | | | | | | | | | | | | |
| 122 | | | | | | 115 | | | 120 | | | 125 | | | | | | | | | |
| 123 | Gln | Asn | Pro | Ala | Ser | Ser | Phe | Phe | Ser | Ser | Ala | Leu | Leu | Ser | Ile | Phe | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 130 | | | 135 | | | 140 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | Gln | Ser | Ser | Pro | Glu | Ser | Ile | Gln | Ser | Pro | Phe | Gln | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 145 | | | 150 | | | 155 | | | | | 160 | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | Ser | Val | Leu | Gln | Ile | Pro | Val | Ser | Ala | Ala | Ser | Ser | Thr | Leu | Val | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 165 | | | 170 | | | 175 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | Ser | Ile | Phe | Gln | Ser | Ser | Pro | Glu | Ser | Thr | Gln | Ser | Pro | Phe | Glu | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 180 | | | 185 | | | 190 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | Phe | Pro | Gln | Ser | Pro | Leu | Gln | Ile | Pro | Val | Ser | Arg | Ser | Phe | Ser | Ser |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 195 | | | 200 | | | 205 | | | | | | | | | |

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All right page

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PAGE: 5

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/270,437

DATE: 07/30/1999
TIME: 14:45:07

Input Set: I270437.RAW

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125 210 215 220
126 Ser Glu Gly Phe Ala Gln Ser Pro Leu Gln Ile Pro Val Ser Ser Ser
127 225 230 235 240
128 Ser Ser Ser Thr Leu Leu Ser Leu Phe Gln Ser Ser Pro Glu Arg Thr
129 245 250 255
130 Gln Ser Thr Phe Glu Gly Phe Pro Gln Ser Pro Leu Gln Ile Pro Val
131 260 265 270
132 Ser Arg Ser Phe Ser Ser Thr Leu Leu Ser Ile Phe Gln Ser Ser Pro
133 275 280 285
134 Glu Arg Thr Gln Ser Thr Phe Glu Gly Phe Ala Gln Ser Pro Leu Gln
135 290 295 300
136 Ile Pro Val Ser Pro Ser Phe Ser Ser Thr Leu Val Ser Ile Phe Gln
137 305 310 315 320
138 Ser Ser Pro Glu Arg Thr Gln Ser Thr Phe Glu Gly Phe Pro Gln Ser
139 325 330 335
140 Pro Leu Gln Ile Pro Val Ser Ser Ser Phe Ser Ser Thr Leu Leu Ser
141 340 345 350
142 Leu Phe Gln Ser Ser Pro Glu Arg Thr Gln Ser Thr Phe Glu Gly Phe
143 355 360 365
144 Pro Gln Ser Pro Leu Gln Ile Pro Gly Ser Pro Ser Phe Ser Ser Thr
145 370 375 380
146 Leu Leu Ser Leu Phe Gln Ser Ser Pro Glu Arg Thr His Ser Thr Phe
147 385 390 395 400
148 Glu Gly Phe Pro Gln Ser Pro Leu Gln Ile Pro Met Thr Ser Ser Phe
149 405 410 415
150 Ser Ser Thr Leu Leu Ser Ile Leu Gln Ser Ser Pro Glu Ser Ala Gln
151 420 425 430
152 Ser Ala Phe Glu Gly Phe Pro Gln Ser Pro Leu Gln Ile Pro Val Ser
153 435 440 445
154 Ser Ser Phe Ser Tyr Thr Leu Leu Ser Leu Phe Gln Ser Ser Pro Glu
155 450 455 460
156 Arg Thr His Ser Thr Phe Glu Gly Phe Pro Gln Ser Pro Leu Gln Ile
157 465 470 475 480
158 Pro Val Ser Ser Ser Ser Ser Thr Leu Leu Ser Leu Phe Gln
159 485 490 495
160 Ser Ser Pro Glu Cys Thr Gln Ser Thr Phe Glu Gly Phe Pro Gln Ser
161 500 505 510
162 Pro Leu Gln Ile Pro Gln Ser Pro Pro Glu Gly Glu Asn Thr His Ser
163 515 520 525
164 Pro Leu Gln Ile Val Pro Ser Leu Pro Glu Trp Glu Asp Ser Leu Ser
165 530 535 540
166 Pro His Tyr Phe Pro Gln Ser Pro Pro Gln Gly Glu Asp Ser Leu Ser
167 545 550 555 560
168 Pro His Tyr Phe Pro Gln Ser Pro Pro Gln Gly Glu Asp Ser Leu Ser
169 565 570 575
170 Pro His Tyr Phe Pro Gln Ser Pro Gln Gly Glu Asp Ser Leu Ser Pro
171 580 585 590
172 His Tyr Phe Pro Gln Ser Pro Pro Gln Gly Glu Asp Ser Met Ser Pro
173 595 600 605

JFJ

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220> to
<223> fields of each sequence which presents at least one n or Xaa.

09/29/437

<210> 8
 <211> 3283
 <212> DNA
 <213> Homo sapiens
 <220>
 <400> 8

last sequence in file

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| AAGAGACGGA | TGATGAACAA | GCTTACATC | GGGAACCTGA | CCCCGCCGT | CACCGCCGAC | 120 |
| GACCTCCGGC | AGCTCTTG | GGACAGGAAG | CTGCCCTGG | CGGGACAGGT | CCTGCTGAAG | 180 |
| TCCGGCTACG | CCTTCGTGGA | CTACCCCGAC | CAGAACTGGG | CCATCCGCGC | CATCGAGACC | 240 |
| CTCTCGGGTA | AAGTGGAAATT | GCATGGGAAA | ATCATGGAAG | TTGATTACTC | AGTCTCTAAA | 300 |
| AAGCTAAGGA | GCAGGAAAAT | TCAGATTGCA | AACATCCCTC | CTCACCTGCA | GTGGGAGGTG | 360 |
| TTGGATGGAC | TTTGGCTCA | ATATGGGACA | GTGGAGAATG | TGGAACAAGT | CAACACAGAC | 420 |
| ACAGAAACCG | CCGTTGTCAA | CGTCACATAT | GCAACAAGAG | AAGAACGAAA | AATAGCCATG | 480 |
| GAGAAGCTAA | GCAGGGCATCA | GTGGAGAAC | TACTCCTCA | AGATTTCTA | CATCCCAGAT | 540 |
| GAAGAGGTGA | GCTCCCCTTC | GCCCCCTCAG | CGAGCCCAGC | GTGGGGACCA | CTCTTCCCGG | 600 |
| GAGCAAGGCC | ACGCCCTGG | GGGCACTTCT | CAGGCCAGAC | AGATTGATT | CCCGCTGGG | 660 |
| ATCCTGGTCC | CCACCCAGTT | TGTTGGTGC | ATCATCGGAA | AGGAGGGCTT | GACCATAAAG | 720 |
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| ATTCTTGAA | TCATGCAGAA | AGAGGCAGAT | GAGACCAAAC | TAGCCGAAGA | GATTCCCTTG | 900 |
| AAAATCTTGG | CACACAATGG | CTTGGTTGGA | AGACTGATTG | GAAAAGAAGG | CAGAAATTG | 960 |
| AAGAAAATTG | AACATGAAAC | AGGGACCAAG | ATAACAATCT | CATCTTGCA | GGATTTGAGC | 1020 |
| ATATACAACC | CGGAAAGAAC | CATCACTGTG | AAGGGCACAG | TTGAGGCTG | TGCCAGTGCT | 1080 |
| GAGATAGAGA | TTATGAAGAA | GCTGCGTGAG | GCCTTGAAA | ATGATATGCT | GGCTGTTAAC | 1140 |
| ACCCACTCCG | GATACTTCTC | CAGCCTGTAC | CCCCATCACC | AGTTTGGCCC | GTTCCCGCAT | 1200 |
| CATCACTCT | ATCCAGAGCA | GGAGATTGTG | AATCTTCA | TCCCCAACCA | GGCTGTGGC | 1260 |
| GCCATCATCG | GGAAAGAAGGG | GGCACACATC | AAACAGCTGG | CGAGATTTCG | CGGAGCCTCT | 1320 |
| ATCAAGATTG | CCCCTGCGGA | AGGCCAGAC | GTCAGCGAA | GGATGGTCAT | CATCACCGGG | 1380 |
| CCACCGGAAG | CCCAGTTCAA | GGCCCAGGG | CGGATCTTG | GGAAACTGAA | AGAGGAAAC | 1440 |
| TTCTTTAAC | CCAAAAGAAGA | AGTGAAGCTG | GAAGGCCATA | TCAGAGTGC | CTCTTCCACA | 1500 |
| GCTGGCCGGG | TGATTGGCAA | AGGTGGCAAG | ACCGTGAACG | AACTGCAGAA | CTTAACCAGT | 1560 |
| GCAGAAGTCA | TCGTGCCTCG | TGACCAAACG | CCAGATGAA | ATGAGGAAGT | GATCGTCAGA | 1620 |
| ATTATCGGGC | ACTTCTTGC | TAGCCAGACT | GCACAGCGCA | AGATCAGGG | AATTGTACAA | 1680 |
| CAGGTGAAGC | AGCAGGAGCA | GAAATACCT | CAGGGAGTCG | CCTCACAGCG | CAGCAAGTGA | 1740 |
| GGCTCCCACA | GGCACCAAGCA | AAACAAACGGA | TGAATGTAGC | CCTTCCAACA | CCTGACAGAA | 1800 |
| TGAGACCAAA | CGCAGCCAGC | CAGATCGGG | GCAAACCAA | GACCATCTGA | GGAATGAGAA | 1860 |
| GTCTCGGGAG | GGGGCCAGGG | ACTCTGCCGA | GGCCCTGAGA | ACCCCAAGGG | CCGAGGAGGG | 1920 |
| GCGGGGAAGG | TCAGCCAGGT | TTGCCAGAAC | CACCGAGCCC | CGCCTCCCGC | CCCCCAGGGC | 1980 |
| TTCTGCAGGC | TTCAGCCATC | CACTTCACCA | TCCACTCGGA | TCTCTCTGA | ACTCCCACGA | 2040 |
| CGCTATCCCT | TTTAGTTGAA | CTAACATAGG | TGAACGTGTT | CAAAGCCAAG | CAAAATGCAC | 2100 |
| ACCCTTTTC | TGTGGCAAAT | CGTCTCTGTA | CATGTGTGA | CATATTAGAA | AGGGAAGATG | 2160 |
| TTAAGATATG | TGGCCTGTGG | GTTACACAGG | GTGCTGCAG | CGGTAATATA | TTTTAGAAAT | 2220 |
| AATATATCAA | ATAACTCAAC | TAACTCCAAT | TTTTAATCAA | TTATTAATT | TTTTTTCTTT | 2280 |
| TTAAAGAGAA | AGCAGGCTT | TCTAGACTTT | AAAGAATAAA | GTCTTGGGA | GGTCTCACGG | 2340 |
| TGTAGAGAGG | AGCTTGAGG | CCACCCGAC | AAAATTCA | CAGAGGGAAA | TCTCGTCGGA | 2400 |
| AGGACACTCA | CGGCAGTTCT | GGATCACCTG | TGTATGTCAA | CAGAAGGGAT | ACCGTCTCCT | 2460 |
| TGAAGAGGAA | ACTCTGTAC | TCCTCATGCC | TGTCTAGCTC | ATACACCCAT | TTCTCTTGC | 2520 |
| TTCACAGGTT | TTAAACTGGT | TTTTGCATA | CTGCTATATA | ATTCTCTGTC | TCTCTCTGTT | 2580 |
| TATCTCTCCC | CTCCCTCCCC | TCCCCCTCTT | CTCCATCTCC | ATTCTTTGA | ATTTCTCTCAT | 2640 |
| CCCTCCATCT | CAATCCCCTA | TCTACGCACC | CCCCCCCCCC | CAGGCAAAGC | AGTGTCTGA | 2700 |
| GTATCACATC | ACACAAAAGG | AACAAAAGCG | AAACACACAA | ACCAGCTCA | ACTTACACTT | 2760 |
| GGTTACTCAA | AAGAACAAAGA | GTCAATGGTA | CTTGTCTTAG | CGTTTGGAA | GAGGAAACAA | 2820 |
| GGAACCCACC | AAACCAACCA | ATCAACCAA | CAAAGAAAAA | ATTCCACAAT | GAAAGAATGT | 2880 |
| ATTTTGTCTT | TTTGCATT | GGTGTATAAG | CCATCAATAT | TCAGCAAAT | GATTCTTTTC | 2940 |
| TTTAAAAAAA | AAAATGTGGA | GGAAAGTAGA | AATTACCAA | GGTTGTTGGC | CCAGGGCGTT | 3000 |
| AAATTACAG | ATTTTTTAA | CGAGAAAAC | ACACAGAAGA | AGCTACCTCA | GGTGTGTTTA | 3060 |
| CCTCAGCACC | TTGCTCTTGT | GTTCCCTTA | GAGATTGAT | AAAGCTGATA | GTTGGAGCAT | 3120 |